

## PATENT ABSTRACTS OF JAPAN

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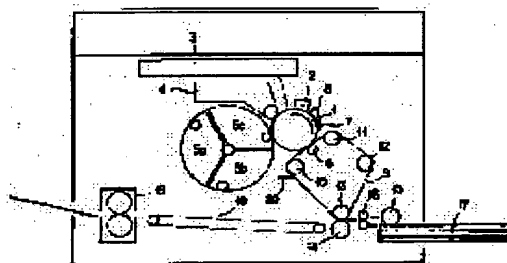
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## (54) IMAGE FORMING METHOD

## (57)Abstract:

PURPOSE: To reproduce a sharp black character and black line not having the decrease of a transfer rate, in an image forming device for making a full color copy by using an intermediate transfer body.

CONSTITUTION: In this image forming method for transferring a full color image in such a manner that a latent image formed on an image carrier is developed with charged color toner of yellow, magenta and cyan and black and each developed image is successively and primarily transferred to the intermediate transfer body 9 by a transfer means to which a voltage having a polarity opposite to that of the toner is applied to be superimposed and then secondarily transferred to another transfer material, the intermediate transfer body 9 has 108-1012Ωcm semiconductivity, each image developed with yellow, magenta and cyan is transferred to the intermediate transfer body 9 and then, the image developed with the black toner is transferred to the intermediate transfer body 9.



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**CLAIMS**

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**[Claim(s)]**

[Claim 1] Yellow and a Magenta which were charged in a latent image formed on image support, a color toner of cyanogen, And after developing negatives with a black toner, imprinting each developed image on a medium imprint object primarily and laying it on top of it one by one with an imprint means which impressed voltage of a toner and a reverse pole In an image formation method which formed a full color image by imprinting secondarily to other imprint material An image formation method characterized by imprinting a developed image by black toner on a medium imprint object after the above-mentioned medium imprint object's having the half-conductivity of 108-1012-ohmcm and imprinting each developed image by yellow, Magenta, and cyanogen on a medium imprint object.

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DETAILED DESCRIPTION

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## [Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the image formation method in color picture formation equipments which used the medium imprint object, such as an electrophotography copying machine and a printer.

[0002]

[Description of the Prior Art] Once imprinting primarily the toner image (developed image) formed on image supporters, such as a photo conductor drum, on medium imprint objects other than an imprint form as the image formation method (the imprint method) in color picture formation equipments, such as an electrophotography copying machine, the method of imprinting the toner image on a medium imprint object secondarily to up to an imprint form anew, and obtaining a copy image is learned.

[0003] And having the effect that generating of gap of the poor multiplex imprint by many factors, such as thickness of the maintenance condition of an imprint form and an imprint form and the front-face nature of elasticity and an imprint form, and color registration can be suppressed by using this method is known.

[0004] The image formation equipment shown in drawing 1 explains the conventional image formation method using this medium imprint object. In drawing 1, 1 is a photo conductor drum and rotates in the direction shown by the arrow head all over drawing. Opposite arrangement of the electrification machine 2, a photographic filter 3, the black toner development machine 4, the color toner development machines 5a, 5b, and 5c, the primary transfer roller 6, the photo conductor drum cleaner 7, and the \*\*\*\* lamp 8 is carried out from the hand-of-cut upstream of this in the location which counters the front face of this photo conductor drum 1 at order.

[0005] nine in drawing is the medium imprint belt arranged so that a part may contact the front face of the photo conductor drum 1 in a primary imprint location, and this is laid [ firmly ] across the surroundings of a drive roll 10, the Wolk amendment roll 11, a tension roll 12, and the back up roll 13 for a secondary imprint -- having -- \*\*\*\* -- up Norikazu -- degree transfer roller 6 is arranged inside the contact section to the photo conductor drum 1 of this medium imprint belt 9. Moreover, the secondary transfer roller 14 has countered the back up roll 13 for a secondary imprint.

[0006] The developed image by the toner imprinted by the medium imprint belt 9 according to an operation of the primary transfer roller 6 is imprinted in response to an operation of the secondary transfer roller 14 by the imprint form 17 fed with the feed roll 15 and the resist roll 16. And the imprint form 17 with which this developed image was imprinted is sent to a fixing assembly 19 with the conveyance belt 18, and it is fixed to it. 20 is a medium imprint belt cleaner which cleans the toner which remained on the medium imprint belt 9.

[0007] With the image formation equipment constituted as mentioned above, formation of an image is performed as follows. That is, the photo conductor drum 1 begins a revolution with a copy actuation start signal, the front face of the photo conductor drum 1 is charged in predetermined potential with the electrification vessel 2, and a latent image is formed with a photographic filter 3. This latent image moves according to a revolution of the photo conductor drum 1, and is developed by one of the black toner development machine 4 and the color toner development machines 5a, 5b, and 5c at the developed image by the toner of one color.

[0008] A medium imprint belt 9 is also running by the peripheral speed and \*\*\*\*\* of the photo conductor drum 1 in accordance with the above-mentioned developed image formation actuation, the developed image by the toner on the above-mentioned photo conductor drum 1 which moved to the primary imprint location where the photo conductor drum 1 and the medium imprint belt 9 contact is imprinted by the medium imprint belt 9 according to an operation of the toner impressed to the primary transfer roller 6, and the electric field produced with the voltage of reversed polarity, and a primary imprint is performed.

[0009] On the other hand, it is removed by the photo conductor drum cleaner 7, the surface potential of the photo conductor drum 1 is discharged with the electric discharge lamp 8, and image formation actuation of the following color is equipped with the toner which remained on the photo conductor drum 1 at this time. The developed image full color on the medium imprint belt 9 by which the multiplex imprint was carried out is obtained by changing the color toner development machines 5a, 5b, and 5c, and repeating the above-mentioned process successively.

[0010] During actuation of the above primary imprint, it is estranged from the medium imprint belt 9 so that the secondary transfer roller 14 and the medium imprint belt cleaner 20 of a secondary imprint means may not disturb the developed image on the medium imprint belt 9, and the imprint form 17 sent out with the feed roll 15 is also standing by in the resist roll 16 neighborhood.

[0011] While the imprint form 17 is sent to a secondary imprint location with the resist roll 16 in accordance with



the developed image on the medium imprint belt 9 which the primary imprint ended moving to a secondary imprint location, the secondary transfer roller 14 contacts the medium imprint belt 9. And current is given to the back of the imprint form 17 according to an operation of the toner impressed to this secondary transfer roller 14, and the electric field produced with the voltage of reversed polarity, and the developed image on the medium imprint belt 9 is imprinted by this operation on the imprint form 17.

[0012] The conveyance belt 18 is adsorbed, the imprint form 17 which the secondary imprint ended is conveyed to a fixing assembly 19, and fixation is performed. The residual toner on the medium imprint belt 9 is removed by the medium imprint belt cleaner 20, and the next image formation actuation is equipped with it.

[0013] In the color electrophotography equipment using above-mentioned intermediate field, since the medium imprint belt 9 was charged whenever it repeats a primary imprint, there was a problem that the rate of a primary imprint became low. On the other hand, with the technology indicated by JP,4-319968,A, in order to prevent the clearness of a black alphabetic character and the linea nigra being lost by decline in this rate of an imprint, the method of developing and imprinting a black toner first is taken.

[0014]

[Problem(s) to be Solved by the Invention] However, when the conventional method mentioned above was used, it had the following problems. The medium imprint hair side of belt side has smoothness from paper etc. in order to prevent poor cleaning. Therefore, the adhesion force to the medium imprint belt of the toner of the developed image primarily imprinted on this medium imprint belt is weak compared with the adhesion force to paper, and the toner of the developed image primarily imprinted on the medium imprint belt is easy to carry out reverse transcription to the photo conductor drum 1 at the time of the imprint of the following color.

[0015] Therefore, first, whenever the toner of development / developed image imprinted primarily repeats the primary imprint of a developed image besides after that, reverse transcription of it is carried out, and its amount of toners eventually imprinted on an imprint form will decrease remarkably. Therefore, although shown in JP,4-319968,A, like, development / the amount of black toners which will be imprinted on copy material as mentioned above if it imprints primarily decreased remarkably, and the problem that the rendering of a clear black alphabetic character and the linea nigra was not obtained had generated the black toner first.

[0016] This invention aims at offering the image formation methods, such as a clear black alphabetic character which was made in view of the above-mentioned thing, and does not have decline in the rate of an imprint, and an electrophotography copying machine using the medium imprint object which enabled the rendering of the linea nigra.

[0017]

[Means for Solving the Problem] In order to attain the above-mentioned object, an image formation method concerning this invention Yellow and a Magenta which were charged in a latent image formed on image support, a color toner of cyanogen. And after developing negatives with a black toner, imprinting each developed image on a medium imprint object primarily and laying it on top of it one by one with an imprint means which impressed voltage of a toner and a reverse pole In an image formation method which formed a full color image by imprinting secondarily to other imprint material After the above-mentioned medium imprint object's having the half-conductivity of 108-1012-ohmcm and imprinting each developed image by yellow, Magenta, and cyanogen on a medium imprint object, he is trying to imprint a developed image by black toner on a medium imprint object.

[0018]

[work --] for By this image formation method, since a developed image by black toner is primarily imprinted after imprinting a developed image by yellow, Magenta, and cyanogen primarily on a medium imprint object, reverse transcription of the black toner is not carried out to image support which is a photo conductor. And when a medium imprint object has the half-conductivity of 108-1012-ohmcm, even if a primary imprint is repeated by this, this medium imprint object is not charged and development / rate of a primary imprint of a black toner imprinted primarily becomes good at the last.

[0019]

[An example of fruit \*\*] An example of this invention is explained below based on drawing 2. In addition, in this example, the same configuration member as image formation equipment used for a conventional method shown in drawing 1 attaches the same sign, and omits explanation. In drawing 2, the black toner development machine 4 is arranged to a hand of cut of the photo conductor drum 1 at the downstream of the color toner development machines 5a, 5b, and 5c.

[0020] An example of this invention method is explained below using this configuration. The photo conductor drum 1 begins a revolution with a copy actuation start signal, the photo conductor drum 1 is charged in predetermined potential with the electrification vessel 2, and a latent image is formed with a photographic filter 3. A latent image formed on the photo conductor drum 1 moves according to a revolution of the photo conductor drum 1, any one of the color toner development machines 5a, 5b, and 5c approaches the photo conductor drum 1 first, and a latent image is developed with a color toner.

[0021] In accordance with the above-mentioned developed image formation actuation, the medium imprint belt 9 is also running by peripheral speed and \*\*\*\*\* of the photo conductor drum 1. A developed image by color toner on the above-mentioned photo conductor drum 1 which moved to a primary imprint location where the photo conductor drum 1 and the medium imprint belt 9 contact The medium imprint belt 9 imprints and a primary imprint is performed with voltage of a toner impressed to the primary transfer roller 6, and reversed polarity, for example, an operation of electric field produced by +500-+3000V.

[0022] By changing the color toner development machines 5a, 5b, and 5c, and repeating the above-mentioned



process successively, after a developed image by color of 3 color piles is primarily imprinted on the medium imprint belt 9, a developed image by black toner is developed on the photo conductor drum 1 with the black toner development vessel 4, and, subsequently to the medium imprint belt 9 top, this is imprinted primarily. And a primary imprint image by superposition of each color on this medium imprint belt 9 is promptly imprinted primarily by the imprint form 17.

[0023] Each actuation of a secondary imprint to up to the imprint form 17 of this primary imprint image is still the same as formation of a developed image to the photo conductor drum 1 top by toner of each above-mentioned color and a primary imprint of a up to [ the medium imprint belt 9 of this developed image ], and the above-mentioned conventional thing. Moreover, the same is said of a front face of the photo conductor drum 1 being cleaned with the photo conductor drum cleaner 7 for every development of each color.

[0024] Although polyimide (PI), polyvinylidene fluoride (PudF), polyethylene terephthalate (PET), and a thing that mixed rheostatic control agents, such as carbon black (CB), in polycarbonate (PC), and set a volume resistivity to 107 - 1014-ohmcm were used for a material of the medium imprint belt 9 used in this example, that [ its ] this volume resistivity of whose is 108 - 1012-ohmcm by reason which is mentioned later was desirable. Moreover, since a mechanical strength is lacking and breakage on a belt crease, a tear, etc. occurs when thickness of this medium imprint belt 9 is 50 micrometers or less, it is necessary to make that thickness thicker than 50 micrometers.

[0025] In addition, measurement of a volume resistivity of the above-mentioned medium imprint belt 9 was performed by Mitsubishi Petrochemical Hi-Resta. An electrode used for measurement is HR probe, and used a volume resistivity when impressing voltage 100V for 30 seconds. Moreover, environment of a measurement location was maintained at temperature of 20-25 degrees C, and 50 - 60% of humidity RH, and after it left a medium imprint object belt to measure under this environment for 4 hours or more, it measured.

[0026] Using above image formation equipment, it copied in a commercial color copy form, and surface potential of the medium imprint belt 9 after a primary imprint at that time was measured. Using a Trek tabulation side electrometer (model344), for measurement of surface potential, the probe 21 was separated from the medium imprint belt 9 50-10mm, and was installed in a location which counters the tension roll 12 grounded as shown at drawing 3 at it.

[0027] Thus, when surface potential was measured, as shown in drawing 4, when a volume resistivity was higher than 1012-ohmcm, whenever it repeated a primary imprint, surface potential rose. If a copy image at this time is seen, in a color imprinted primarily later, concentration will be low, therefore a tint of a portion with which a toner more than a two color laps will have shifted.

[0028] On the other hand, when a volume resistivity was smaller than 1012-ohmcm, as shown in drawing 4, even if it repeated a primary imprint, surface potential hardly rose, but a good image also with small copy image and gap of tint of a portion with which a toner more than a two color laps, without concentration changing with colors was obtained. Moreover, since there was no reverse transcription of a black toner, a black alphabetic character and linea nigra were also reproduced good.

[0029] In addition, a volume resistivity is 108. Although surface potential did not rise even if it repeated a primary imprint, as shown in drawing 4 also when lower than omegacm, an image with it was not obtained. [ severe spilling of a toner of a copy image and ] [ good ] Since a charge given to the back of the medium imprint belt 9 spreads even besides imprint nip through resistance of the medium imprint belt 9 in the primary imprint section, this is because a toner will be imprinted by the medium imprint belt 9 from the photo conductor drum 1, before the photo conductor drum 1 and the medium imprint belt 9 contact.

[0030]

[Effect of the Invention] By the image formation method concerning this invention, the effect that a clear black alphabetic character without decline in the rate of an imprint and a linea-nigra rendering are obtained is done so.

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[Translation done.]



## \* NOTICES \*

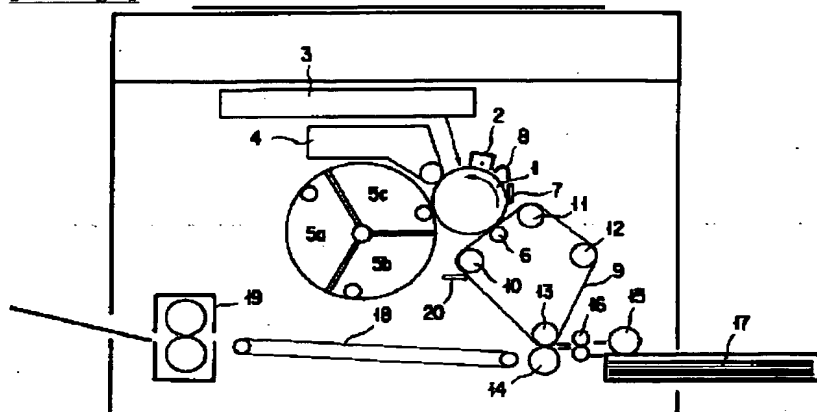
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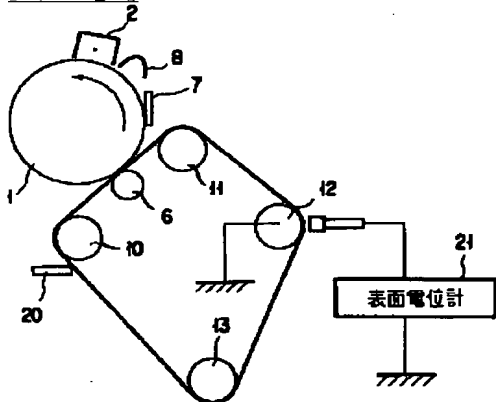
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## DRAWINGS

[Drawing 1]



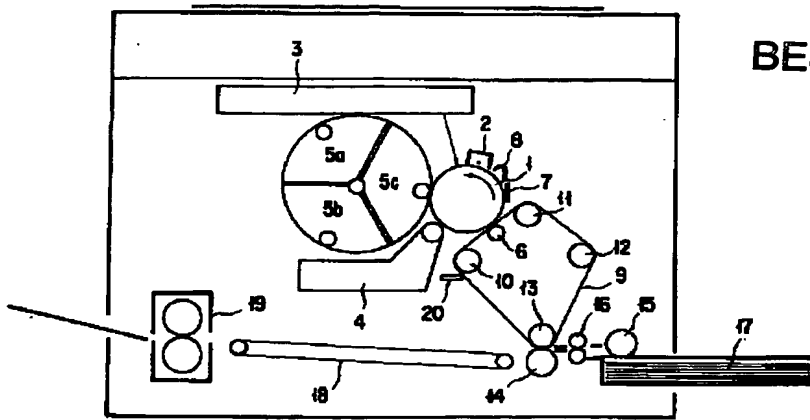
[Drawing 3]



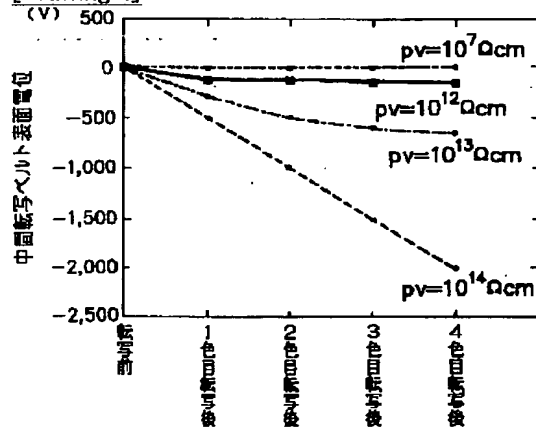
[Drawing 2]



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[Drawing 4]



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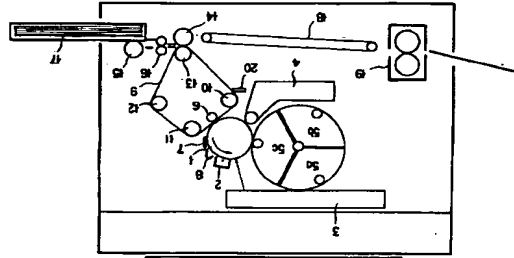
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(54)【発明の名称】 画像形成方法

(57)【要約】

【目的】 中間転写体を用いてフルカラー複写をする画像形成装置において、転写率の低下のない鮮明な黒文字、黒線を再現できるようにする。

【構成】 像担持体上に形成された潜像を、帯電したイエロー、マゼンダ、シアンのカラートナー、及び黒トナーで現像し、各現像像をトナーと逆極の電圧を印加した転写手段にて順次中間転写体に一次転写して重ね合わせながら、他の転写材へ二次転写することによりフルカラー一面像を形成するようにした画像形成方法において、上記中間転写体が108～1012Ωcmの半導電性を有し、かつイエロー、マゼンダ、シアンの各現像像を中間転写体に転写した後に、黒トナーによる現像像を中間転写体上に転写する。



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【発明の概要】

【請求項1】 像担持体上に形成された潜像を、帯電したイエロー、マゼンダ、シアンのカラートナー、及び黒トナーで現像し、各現像像をトナーと逆極の電圧を印加した転写手段にて順次中間転写体に一次転写して重ね合わせながら、他の転写材へ二次転写することによりフルカラー一面像を形成するようにした画像形成方法において、上記中間転写体が108～1012Ωcmの半導電性を有し、かつイエロー、マゼンダ、シアンの各現像像を中間転写体に転写した後に、黒トナーによる現像像を中間転写体上に転写することを特徴とする画像形成方法。

【発明の詳細な説明】

【0001】  
【産業上の利用分野】 本発明は、中間転写体を用いた電子写真複写機やプリンタ等のカラー画像形成装置における画像形成方法に関するものである。  
【0002】  
【従来の技術】 電子写真複写機等のカラー画像形成装置における画像形成方法（転写方法）としては、感光体ドラム等の像担持体上に形成されたトナー像（現像像）を一旦転写用紙上のトナー像を転写用紙上へ二次転写して複写像を得る方法が知られている。  
【0003】 そしてこの方法を用いることで、転写用紙の保持状態、転写用紙の厚さやこし、転写用紙の表面性等多くの要因による多重転写不良やカラーレズレエーションの発生を抑えることができるという効果を有することが知られている。  
【0004】 この中間転写体を用いた従来の画像形成方法について、図1に示した画像形成装置にて説明する。図1において、1は感光体ドラムであり、図中に矢印で示した方向に回転するようにになっている。この感光体ドラム1の表面に外向する位置には、この回転方向上流側から順に、帯電器2、露光器3、黒トナー現像器4、カラートナー現像器5a、5b、5c、一次転写ローラ6、感光体ドラムクリーナー7、徐電ランプ8が対向配置されている。

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【0005】 図中9は一次転写位置において感光体ドラム1の表面の一部が当接するように配置された中間転写ベルトで、これは駆動ローラ10、ウォーク補正ローラ11、テンションローラ12、二次転写用バックアップローラ13の回りに張架されており、上記一次転写ローラ6はこの中間転写ベルト9の感光体ドラム1への当接部の内側に配置されている。また二次転写用バックアップローラ13には二次転写ローラ14が対向されている。

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【0006】 一次転写ローラ6の作用により中間転写ベルト9に転写されたトナーによる現像像は、二次転写ローラ14の作用を受けて、フィードローラ15、レジス

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ローラ16により送給された転写用紙17に転写される。そしてこの現像像が転写された転写用紙17は搬送ベルト18により定着器19に送られて定着される。20は中間転写ベルト9上に残ったトナーをクリーニングする中間転写ベルトクリーナーである。

【0007】 上記のように構成された画像形成装置では次のようにして画像の形成が行われる。すなわち、複写動作開始信号により感光体ドラム1が回転を始め、帯電器2により感光体ドラム1の表面が所定の電位に帯電され、露光器3により潜像が形成される。この潜像は、感光体ドラム1の回転に従って移動し、黒トナー現像器4及びカラートナー現像器5a、5b、5cのうちの1つにより1つの色のトナーによる現像像に現像される。

【0008】 上記現像像形成動作にあわせて中間転写ベルト9も感光体ドラム1の周速と略同速で走行しており、感光体ドラム1と中間転写ベルト9が当接する一次転写位置へ移動した上記感光体ドラム1上のトナーによる現像像は、一次転写ローラ6に印加されたトナーと逆極性の電圧により生じる電界の作用により、中間転写ベルト9に転写され、一次転写が実行される。

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【0009】 一方、このときに感光体ドラム1上に残置したトナーは、感光体ドラムクリーナー7により除去され、徐電ランプ8により感光体ドラム1の表面電位が除電され、次の色の画像形成動作に備えられる。上記プロセスを順次カラートナー現像器5a、5b、5cを交換して繰り返すことで、中間転写ベルト9上にフルカラーの多重転写された現像像が得られる。

【0010】 以上の一次転写の動作の間、二次転写手段の二次転写ローラ14及び中間転写ベルトクリーナー20は中間転写ベルト9上の現像像を乱さないよう中間転写ベルト9から離間されており、フィードローラ15により送り出された転写用紙17もレジストローラ16付近で待機されている。

【0011】 一次転写が終了した中間転写ベルト9上の現像像が二次転写位置へ移動するにあわせて、レジストローラ16により転写用紙17が二次転写位置へ送られると共に、二次転写ローラ14が中間転写ベルト9に当接する。そしてこの二次転写ローラ14に印加されたトナーと逆極性の電圧により生じる電界の作用により中間転写ベルト9の背面に電流が与えられ、この作用により中間転写ベルト9上の現像像が転写用紙17上に転写される。

【0012】 二次転写が終了した転写用紙17は、搬送ベルト18に吸着されて定着器19へ搬送され、定着が実行される。中間転写ベルト9上の残留トナーは中間転写ベルトクリーナー20により除去され、次の画像形成動作に備えられる。

【0013】 上述の中間体を用いたカラー電子写真装置においては、一次転写を繰り返す度に中間転写ベルト9が帯電していくため、一次転写率が低くなっていくとい

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う問題があった。これに対して特開平4-319968号公報に開示された技術では、この転写紙の低下により黒文字、黒線の鮮明さが失われるのを防ぐために、最初に黒トナーを現像して転写する方法がとられている。

【0014】  
【発明が解決しようとする課題】しかしながら、上述した従来の方法を用いる場合、以下のような問題を生じていた。中間転写ベルトの表面は、クリエニシグマを防止するため、紙などより平滑になっている。そのため、この中間転写ベルト上に一次転写された現像像のトナーの中間転写ベルトに対する付着力は、紙に対する付着力に比べて弱くなっており、中間転写ベルト上に二次転写された現像像のトナーが、次の色の転写時に感光体ドラム1に逆転写しやすくなっている。

【0015】従って、最初に現像／一次転写された現像像のトナーは、その後他の現像像の一次転写を繰り返す度に、逆転写されいき、最終的に転写用紙上に転写されるトナー量が著しく少なくなってしまうことになる。よって、特開平4-319968号公報に示されるもののように、黒トナーを最初に現像／一次転写すると、上述のように複写上に転写される黒トナー量が著しく少なくなると、鮮明な黒文字、黒線の再現が得られないという問題が発生していた。

【0016】本発明は上記のことにかんがみながら、また、転写紙の低下のない鮮明な黒文字、黒線の再現を可能にした中間転写体を用いた電子写真複写機の画像形成方法を提供することを目的とするものである。

【0017】  
【課題を解決するための手段】上記目的を達成するためには、本発明に係る画像形成方法は、像担持体上に形成された潜像を、帯電したイエロー、マゼンタ、シアンのカラートナー、及び黒トナーで現像し、各現像像をトナー一次転写して重ね合わせてから、他の転写材へ二次転写することによりフルカラー画像を形成するようにした画像形成方法において、上記中間転写体が $10^8 \sim 10^{12} \Omega \text{cm}$ の半導電性を有し、かつイエロー、マゼンタ、シアンの半導電性を有し、中間転写体に転写した後に、黒トナーによる各現像像を中間転写体に転写した後に、黒トナーによる現像像を中間転写体上に転写するようにしている。

【0018】  
【作用】この画像形成方法は、イエロー、マゼンタ、シアンの現像像を中間転写体上に一次転写した後、黒トナーによる現像像が一次転写されるので、黒トナーが感光体である像担持体に逆転写されることがない。そして中間転写体が $10^8 \sim 10^{12} \Omega \text{cm}$ の半導電性を有していることにより、これに一次転写が繰り返されても、この中間転写体が帯電することがなく、最後に現像／一次転写される黒トナーの一次転写率がよくなる。

の測定は、三菱電機製Hi-Resetaで行なった。測定に用いた電極はHプロブで、電圧100Vを30秒間印加したときの体積抵抗率を用いた。また測定場所の環境は、温度 $20 \sim 25^\circ\text{C}$ 、湿度 $50 \sim 60\% \text{RH}$ に保たれており、測定する中間転写ベルトをこの環境下に4時間以上放置してから測定を行なった。

【0026】上記の画像形成装置を用いて、市販のカラーコピー用紙に複写し、そのときの一次転写後の中間転写ベルト9の表面電位を測定した。表面電位の測定にはTretek社製表面電位計(model 344)を用い、そのプローブ21を図3に示すように接地されたデレンシオンロール12に対向する位置に、中間転写ベルト9から $50 \sim 100 \text{mm}$ 離して設置した。

【0027】このようにして表面電位を測定したところ、図4に示すように、体積抵抗率が $10^{12} \Omega \text{cm}$ より高い場合、一次転写を繰り返す度に表面電位が上昇していった。このときの複写像をみると、後から一次転写した色ほど濃度が低くなっており、そのため二色以上のトナーが重なる部分の色味がずれてしまった。

【0028】これに対して、体積抵抗率が $10^{12} \Omega \text{cm}$ より低い場合、図4に示すように一次転写を繰り返しても表面電位がほとんど上昇せず、複写像も色によって濃度の異なることなく、二色以上のトナーが重なる部分の色味がずれなく、二色以上の良好な画像が得られた。また、黒トナーの逆転写がないので黒文字、黒線も良好に再現されていた。

【0029】なお、体積抵抗率が $10^8 \Omega \text{cm}$ よりも低い場合、図4に示すように一次転写を繰り返しても表面電位が上昇しなかったが、複写像のトナーの飛び散り

がひどく良好な画像が得られなかった。これは、一次転写部で中間転写ベルト9の背面に与えた電荷が、中間転写ベルト9の底材を通じて転写ニップの外にまで広がるため、感光体ドラム1と中間転写ベルト9が接触する前に感光体ドラム1から中間転写ベルト9にトナーが転写されてしまったためである。

【0030】

【発明の効果】この発明に係る画像形成方法では、転写紙の低下のない鮮明な黒文字、黒線の再現が得られるという効果を奏する。

【図面の簡単な説明】

【図1】従来の中間転写体を用いた画像形成方法を要する画像形成装置を示す構成図である。

【図2】本発明に係る中間転写体を用いた画像形成方法を要する画像形成装置を示す構成図である。

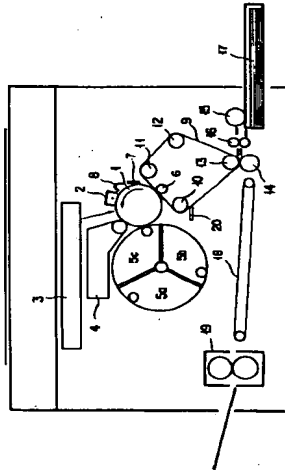
【図3】本発明の実施例における作用を示す図である。

【図4】本発明の実施例における作用を示す図である。

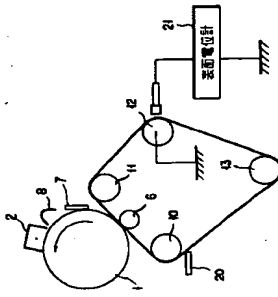
【符号の説明】

1…感光体ドラム、2…帯電器、3…露光器、4…黒トナー現像器、5a、5b、5c…カラー転写ドラム、6…一次転写ロール、7…感光体ドラムクリーナ、9…中間転写ベルト、10…駆動ロール、13…二次転写バックアップロール、14…二次転写ロール、15…ワイヤーロール、16…レジストロール、17…転写用紙、18…搬送ベルト、19…定着器、20…中間転写ベルトクリーナ、21…プローブ。

【図1】

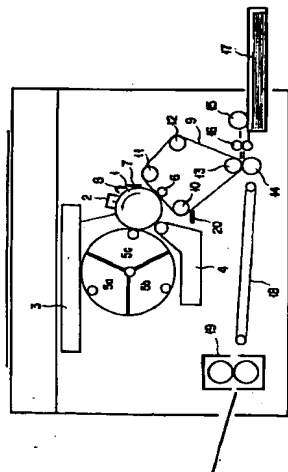


【図3】





【図2】



【図4】

